

I claim:

1. A folding rigid boat for routine and emergency use by occupants as an auxiliary watercraft comprising:

- (a) a hull comprised of complementary rigid bow and rigid stern sections including respective transversely-extending mating bulkhead elements;
- (b) complementary hinge elements cooperating together for pivotally connecting said mating bulkhead elements together for permitting said bow and stern sections to be folded onto themselves into a storage configuration and away from each other into an unfolded use configuration, wherein said mating bulkhead sections are joined together to form a centrally-disposed joint defining a single bulkhead extending along said joint;
- (c) flexible topsides secured to said hull along at least port and starboard sides of said hull and deployable for providing an upwardly extending freeboard and for further providing rigidity to the hull when said boat is in the unfolded use configuration, wherein the bulkhead elements extend upwardly above the gunwale of the rigid bow and stern elements and below the topmost portion of the topsides.

2. A folding rigid boat according to claim 1, and including a membrane extending along the mating edges and sealingly affixed to the bow section, stern section and adjacent topsides, thereby forming a void between said membrane and said hinge elements and defining a watertight compartment for trapping and containing leakage past the hinge elements and through said centrally-disposed joint.

3. A folding rigid boat according to claim 1, wherein the topsides comprise an enclosed elongate inflatable tube.
4. A folding rigid boat according to claim 3, wherein said flexible topsides comprises a sheet material selected from the group consisting of textile fabric and plastic film.
5. A folding rigid boat according to claim 1, and including a sole compartment sealable against water intrusion positioned in the bottom of the hull to define with the hull a double bottom, the sole compartment having a volume sufficient to displace sufficient water to keep the boat with a payload afloat in the absence of a waterproof barrier in the joint between the bow and stern elements.
6. A folding rigid-bottomed boat according to Claim 1 and including a waterproofing gasket system, said gasket system being bonded to at least one of the bow and stern elements at the joint thereof and extending from port to starboard and sealingly engaging the other of the bow and stern elements and a bottom of the upwardly extending topsides so as to fill and waterproof the space between the flexible topsides, bow element and stern element.
7. A folding rigid-bottomed boat according to Claim 6, wherein the gasket system is independent of the hinge element.

8. A folding rigid-bottomed boat according to claim 6, wherein said gasket system comprises first and second spaced-apart gaskets whereby water penetrating past the first gasket will be retained by the second gasket to prevent leakage into the boat from between the bow and stern elements.

9. A folding rigid-bottomed boat according to claim 6, wherein said gasket system comprises an endless loop gasket defined by two spaced-apart runs of the a single length of gasket whereby water penetrating past the first gasket run will be retained by the second gasket run to prevent leakage into the boat from between the bow and stern elements.

10. A folding rigid boat for routine and emergency use by occupants as an auxiliary watercraft, comprising:

- (a) complementary rigid bow and rigid stern sections joined together along respective mating edges to form a hull;
- (b) complementary rigid hinge elements cooperating together to form a centrally-disposed joint pivotally connecting said bow and stern sections along a port-to-starboard axis in vertically spaced-apart relation to the bottom of the hull for permitting the bow and stern sections to be folded onto themselves into a storage configuration and away from each other along the joint into an unfolded use configuration;
- (c) flexible topsides secured to said hull along at least port and starboard sides of the hull for providing an upwardly-extending freeboard to the hull when said boat is in the unfolded use configuration, the topsides unconnected to and independent of the rigid hinge elements; and

(d) waterproofing means carried by the bow and stern sections and unconnected to and independent of the rigid hinge elements for preventing water leakage through centrally-disposed joint when in the boat is in the unfolded use configuration.

11. A folding rigid boat according to claim 10, and including a membrane extending along the centrally-disposed joint and sealingly affixed to the bow section, stern section and adjacent inflatable topsides, thereby forming a void between said membrane and said hinge elements and defining a watertight compartment for trapping and containing leakage past the hinge elements and through the centrally-disposed joint.

12. A folding rigid boat according to claim 10, wherein the topsides comprise an enclosed elongate inflatable tube.

13. A folding rigid boat according to claim 10, wherein said flexible topsides comprises a sheet material selected from the group consisting of textile fabric and plastic film.

14. A folding rigid boat according to claim 10, and including a sole compartment sealable against water intrusion positioned in the bottom of the hull to define with the hull a double bottom, the sole compartment having a volume sufficient to displace sufficient water to keep the boat with a payload afloat in the absence of a waterproof barrier in the joint between the bow and stern elements.

15. A folding rigid-bottomed boat according to Claim 10, wherein said waterproofing means comprises a gasket system bonded to at least one of the bow and stern elements at the joint thereof and extending from port to starboard and sealingly engaging the other of the bow and stern elements and a bottom of the upwardly extending topsides so as to fill and waterproof the space between the flexible topsides, bow element and stern element.

16. A folding rigid-bottomed boat according to Claim 15, wherein the gasket system is independent of the hinge element.

17. A folding rigid-bottomed boat according to claim 15, wherein said gasket system comprises first and second spaced-apart gaskets whereby water penetrating past the first gasket will be retained by the second gasket to prevent leakage into the boat from between the bow and stern elements.

18. A folding rigid-bottomed boat according to claim 15, wherein said gasket system comprises an endless loop gasket defined by two spaced-apart runs of the a single length of gasket whereby water penetrating past the first gasket run will be retained by the second gasket run to prevent leakage into the boat from between the bow and stern elements.